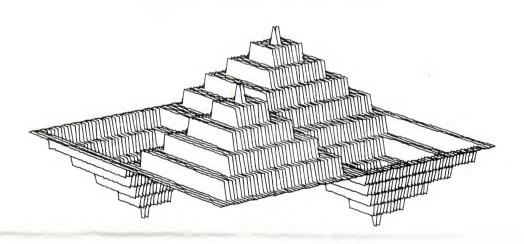
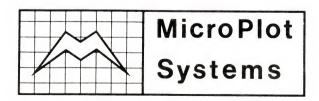
# TEKTRONIX 4010 TERMINAL EMULATOR

**PC-PLOT** 

THE GRAPHICS LINK
BETWEEN THE IBM PC
AND YOUR COMPUTER NETWORK

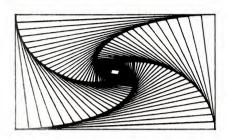




1897 Red Fern Dr. Columbus, Ohio 43229 614-882-4786 Telex EASY LINK 62186730

## Technical Note

### PC-PLOT



#### PC-PLOT

#### TEKTRONIX MODEL 4010 TERMINAL EMULATOR

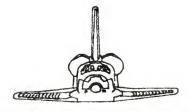
You already have a Tektronix compatible graphics terminal in your IBM Personal Computer — all you need is the software to enable it — PC-PLOT!!

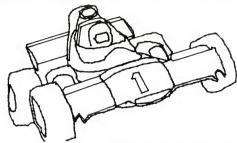
Hundreds of satisfied users are utilizing PC-PLOT, the mainframe graphics link, to increase the utility of their IBM Personal Computers by using them as dual function devices. The IBM PC is a powerful local computing device and there is a wealth of software available to run on it. However, the power of a mainframe computer can be added to your IBM by using it as an intelligent graphics terminal in a local computer network or through a dial-up computer facility.

PC-PLOT creates a virtual Tektronix Model 4010 graphics terminal and allows the user to access powerful mainframe graphics software such as Precision Visuals DI-3000, SAS Graph, DISSPLA & Tell-A-Graph (ISSCO), Tektronix PLOT-10, as well as Chemical Abstracts CAS OnLine, and Questel DARC chemical databases. PC-PLOT implements all Model 4010 features including interactive cursor reporting and will work with any program that generates the Tektronix PLOT-10 data format.

PC-PLOT includes features which will minimize the amount of computer time billed when using a time-share system. A complete session can be saved on the IBM diskette and then reviewed a page at a time after logging off the computer system. Plots can be made offline of data saved during a computer session rather than paying for connect time while the plotter or printer is running.

PC-PLOT is a field-proven product with hundreds of satisfied users at major corporations, universities, research labs, and independent consultants. If you have an IBM Personal Computer and access to a mainframe or minicomputer with graphics, you cannot afford to be without PC-PLOT.





PC-PLOT requires an IBM-PC or PC-XT, 64k memory minimum, 1 disk drive (two recommended), asynchronous communication adapter, high quality display monitor, and a graphics board. The asynchronous communication adapter can be either the standard IBM board or part of one of the many multi-function cards available. The graphics board must be either the standard IBM Color/Graphics adapter card, Plantronics/Frederick Electronics Color Plus graphics board, or Hercules Computer Technology monochrome graphics board. The IBM and Plantronics boards require a direct-drive (RGB) color monitor with the ability to display 80 columns of characters. The Hercules graphics board requires the use of the IBM green phosphor character display.

There are 3 versions of PC-PLOT. PC-PLOT-I, the simplest package in the family, is intended to be a demonstration package for potential users to see if PC-PLOT will function correctly in their own operating environment. PC-PLOT-I contains a simple network communication module and the complete Tektronix terminal emulation package. It will provide a functional demonstration of PC-PLOT but does not provide any of the advanced communication and terminal emulation features of PC-PLOT-II & III.

PC-PLOT-II includes all the necessary program modules to implement a complete graphics workstation utilizing powerful mainframe graphics software. PC-PLOT-II\_includes the Tektronix terminal emulation module and a fullfeature communications module. The network communications portion of PC-PLOT-II includes an on-line help menu available at any time, on-line setup or change of communications parameters from a short menu, local printer control for text listings, serial line debug mode which allows identification of imbedded nonprinting control characters in the data stream to the terminal, and a file save mode that allows saving a picture file (or text) as it is being sent from the host. When the IBM-PC is not on-line with the host, picture files can be redrawn on the screen. printed on the IBM/Epson graphics printer, or plotted on a Hewlett-Packard Model 7470A pen plotter.

PC-PLOT-II draws a monochrome (white on black) image in 640 x 200 resolution on the IBM color/graphics display adapter, a four color image in 640 x 200 resolution on the Plantronics Color+ display board, and a monochrome (green on black) image in 720 x 348 resolution on the Hercules display board.

PC-PLOT-III is the ultimate in terminal emulation software. It includes Tektronix 4010 graphics terminal emulation plus the features of an ANSI x3.64 intelligent terminal as implemented on the DEC VT-100. The network communication manager in PC-PLOT-III includes up to eight different terminal configurations stored in a disk file which can be changed while on-line, a telephone directory containing up to 16 names, telephone numbers, logon sequences, and terminal configurations. Autodailing and auto-logon from the telephone directory can be done using a Haynes Smartmodem 300 or 1200 (or equivalent modem). PC-PLOT-III can also upload ASCII files from the IBM diskette making it possible to use for electronic mail or Telex service.

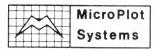
PC-PLOT-III draws either monochrome (640 x 200) plots or four color plots (320 x 200) using the IBM color/graphics adapter, four color plots (640 x 200) resolution or 16 color plots (320 x 200) resolution using the Plantronics Color + board, or monochrome plots (720 x 348) using the Hercules graphics board.

#### **TECHNICAL DETAILS**

The Tektronix screen has a graphics resolution of 1024 x 780 and a character screen of 35 lines of 74 characters. Since the 4010 terminal has a direct-view storage tube, the screen does not scroll. Tektronix format data to be displayed on the IBM PC screen is scaled by an appropriate factor in order that the aspect ratio remain the same.

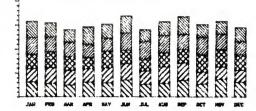
PC-PLOT-II (and PC-PLOT-I) utilize the hardware character set built into the IBM and Plantronics graphics boards. The alpha screen for either board is 25 lines of 80 characters. Since the hardware characters are used, individual letters or symbols are slightly larger than their counterpart on the Tektronix screen and can only be placed in hardware-defined  $\bf 8 \times 8$  pixel blocks on the screen. This prevents the board from putting subscripts in the proper position and the position of a label on a chart may be as much as +/-4 pixels displaced from the actual position defined due to the fixed nature of the character blocks on the screen.

PC-PLOT-II for the Hercules graphics board utilizes a software character set which allows 43 rows of 90 characters to be displayed on the screen. Each character can be placed at any pixel location on the screen so that the positioning of subscripts and labels will be more precise than by using hardware characters.



### INCOME BY DIVISION

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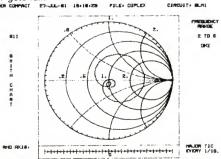


Interactive cursor mode using the crosshair is implemented in all versions of PC-PLOT. When the host puts the IBM cursor into interactive mode, the crosshair cursor is moved using eight keys on the numeric keypad. The cursor moves either one pixel per key entry (slow mode) or eight pixels per key entry (fast mode). To get fast mode, hold one of the shift keys down while moving the cursor.

PC-PLOT-III utilizes both software and hardware character sets. In order to be able to display characters at any pixel on the screen, a compromise must be made between character size and the available resolution of the IBM color/graphics adapter. When PC-PLOT-III is running but it has not encountered any graphics lead-in sequences, hardware characters are displayed on the screen. As soon as the shift is made into graphics mode, the screen is reformatted and the alpha characters that appear are software drawn. The compromise character size is a 5 x 6 pixel character in a 6 x 7 pixel block which results in an upper case only character set that will display 33 rows of 91 characters. The character set used with the Hercules graphics board in PC-PLOT-III is the same as that used in PC-PLOT-II. The software character sets do not scroll.

The graphics screen can be cleared by depressing the [F1] function key. If the picture file save mode is active at the time the [F1] key is depressed, a page break character is placed into the picture file being saved. When the picture file is redrawn later with the DRAW program, screen output will halt at each page break until a key is depressed.

PC-PLOT is written in 8086/8088 assembly language for fast execution. Communication packages written in interpretive Basic are limited to 300 or 1200 Baud transmission at best but PC-PLOT can run at 9600 baud. A 1024 byte communications buffer is provided ahead of the program which is interrupt-driven to speed transfer of large blocks of data from your system to PC-PLOT quickly. For communication rates in excess of 2400 baud or if you are making long listings on a printer, the host computer system must support XON/XOFF so that data is not lost if the input buffer qets full.



Tektronix 4010 compatible data files consist of binary coordinate data packed as ASCII characters. Picture files sent to PC-PLOT and saved in a disk file are saved as received in Tektronix format

HPPLOT, the plotting utility which will drive Hewlett-Packard Model 7470A and other pen plotters utilizing the Hewlett-Packard Graphics Language (HP-GL), reads the Tektronix format data file and converts it to HP-GL commands. Even though the image drawn on the screen by PC-PLOT is a lower resolution than the Tektronix terminal, the plot drawn on the pen plotter is drawn at full 1024 x 1024 resolution.

A screen dump utility program is provided with all versions of PC-PLOT to allow the image on the IBM screen to be printed on an IBM/Epson printer.

PC-PLOT is NOT!! copy protected for your convenience. MicroPlot Systems will not restrict the way in which you use PC-PLOT in your system by forcing you to use diskette-based software on a PC-XT or to use only our diskette. MicroPlot Systems will provide telephone and written technical support, notices of product changes, revision notices, as well as new product announcements to registered users only. We will ask for your registration number and company name if you call for information.

Documentation included with the packages includes a step-by-step installation procedure for inexperienced computer users as well as a complete technical description of Tektronix data files, cable diagrams, and switch settings for the H-P plotter and modem.

The PC-Plot family of programs are copyrighted property of MicroPlot Systems which are sold for use on a single IBM Personal Computer. Purchasers may make copies of their diskettes for backup purposes only and may not make copies to give away, sell, or distribute in any way.

#### ORDERING INFORMATION

PC-PLOT is available by mail order. Orders can be placed by phone, mail, or Telex. We will accept VISA, MasterCard, checks, or company purchase orders from D+B rated companies. Terms on company purchase orders are NET 15 days.

Catalog#	Product	Price
1000	PC-PLOT-I (IBM color board)	\$40.00
2000	PC-PLOT-II (IBM color board)	\$75.00
2010	PC-PLOT-II (Plantronics board)	\$75.00
2020	PC-PLOT-II (Hercules board)	\$75.00
3000	PC-PLOT-III (IBM board)	\$95.00
	(Plantronics board) (Hercules board)	

Add \$1.05 on all products for shipping. Add \$3.00 for UPS/COD shipping

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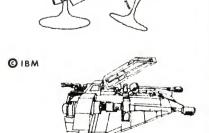
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SY Holothurin A SY 1H, 3H-Naphth (2', 1': 4, 5) indeno (1, 7a-c) furan, lancet-9 (1))-en-18-cic cold deriv.

MF C54 H98 D27 5 . No

ST 4: 38, 12A, 22S. LANOST. 3 (8-D-GLUCD, 8-D-GLUCD, 8-D-GLUCD, 8-D-XYLD). 5



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